

Brunswick 2

1Q/2014 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Dec 31, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Design Control for Required Service Water Flow to the Emergency Diesel Generators

An NRC-identified Green NCV of 10 CFR Part 50, Appendix B, Criterion III, Design Control, was identified for the failure of the licensee to verify the adequacy of design of the emergency diesel generator (EDG) service water flow. Specifically, from May 1, 1989, until October 28, 2013, Calculation M-89-0008, contained non-conservative values for EDG maximum loading, service water inlet temperatures, and heat exchanger fouling factor, resulting in a non-conservative calculation for required service water flow to the EDG jacket water heat exchanger, which called into question the operability of EDG 3. The licensee re-performed Calculation M-89-0008 and determined EDG 3 was operable. The licensee entered this issue into the corrective action program (CAP) as nuclear condition report (NCR) 592035.

The inspectors determined that the failure of the licensee to have an accurate calculation for required service water flow to the EDG jacket water heat exchanger was a performance deficiency. The finding was more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the non-conservative calculation called into question the operability of EDG 3. Using IMC 0609, Appendix A, issued June 19, 2012, the SDP for Findings At-Power, the inspectors determined the finding was of very low safety significance (Green) because the finding did not affect the design or qualification of a mitigating structures, systems, and components (SSC), the finding did not represent a loss of system and/or function, the finding did not represent an actual loss of a function of a single train for greater than the technical specification (TS) allowed outage time, the finding did not represent an actual loss of a function of one or more non-TS trains of equipment, and did not screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. The finding has a cross-cutting aspect in the area of human performance associated with the resources attribute because the licensee did not have complete, accurate and up-to-date design documentation for EDG service water flow. Specifically, due to the inspector's questions, Calculation M-89-0008 required revision due to non-conservatism in August 2013 and in November 2013. H.2(c)

Inspection Report# : [2013005](#) (*pdf*)

Significance: TBD Dec 31, 2013

Identified By: NRC

Item Type: AV Apparent Violation

Failure to Identify and Correct Flood Protection Degradation in Safety-Related Buildings

The NRC identified an AV of 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action, with two examples. The first example involved the failure of the licensee to promptly identify and correct conditions adverse to quality

associated with flood protection of multiple safety-related buildings. Specifically, the licensee failed to promptly identify or correct safety-related buildings that contained openings that would have adversely impacted their ability to mitigate external flooding of these buildings in the event of a design basis probable maximum hurricane (PMH). The second example involved the failure of the licensee to correct a significant condition adverse to quality. Specifically, the licensee failed to implement a corrective action to preclude repetition by not adequately developing an engineering program to mitigate the consequences of external events (flooding, high winds, and seismic) that ensured appropriate equipment classifications, with interfacing programs of maintenance rule (MR) and zero tolerance for equipment failures.

This resulted in a violation of technical specification (TS) 3.7.2, Service Water (SW) System and Ultimate Heat Sink, and TS 3.5.2, Emergency Core Cooling System (ECCS) – Shutdown, since the inoperability of the required number of service water pumps (SWPs) would violate TS 3.7.2, and TS 3.5.2 since SW cools the residual heat removal (RHR) system heat exchangers.

The inspectors determined the failure to identify and correct the missing and degraded flood barriers in multiple safety-related buildings, and the failure to implement a corrective action to preclude repetition by not developing an engineering program to mitigate the consequences of external events that ensured appropriate equipment classifications, with interfacing programs of MR and zero tolerance for equipment failures, was a performance deficiency. The finding was more than minor because it was associated with the protection against external factors attribute (flood hazard) of the Mitigating Systems Cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, nine of the ten Unit 1 and Unit 2 SWPs would be potentially inoperable and unavailable during specified PMH events. Because the finding involved reactor shutdown operations and conditions, IMC 0609, Appendix G, Shutdown Operations Significance Determination Process (SDP), Attachment 1, issued May 25, 2004, Phase 1 Operational Checklists for Both pressurized water reactors (PWRs) and boiling water reactors (BWRs), was used. The inspectors used Checklist 5, BWR Hot Shutdown: Time to Boil < 2 Hours, and determined the finding increased the likelihood that a loss of decay heat removal (DHR) will occur due to failure of the system itself or support systems, degraded the licensee's ability to cope with a loss of offsite power (LOOP), degraded the licensee's ability to add reactor coolant system (RCS) inventory when needed, and degraded the licensee's ability to establish an alternate core cooling path if DHR could not be re-established for 24 hours. Further, the performance deficiency involved external events. Consequently a Phase 2 analysis could not be performed and the issue screened directly to a Phase 3 analysis. The significance of this issue is "To Be Determined" (TBD) and its final significance will be dispositioned in separate transmittal. The issue is not an immediate safety concern because the licensee has taken appropriate corrective actions. The finding has a cross-cutting aspect in the area of human performance associated with the field presence attribute because deviations from standards and expectations were not corrected promptly, and the licensee did not ensure supervisory and management oversight of work activities, including contractors. Specifically, licensee management failed to ensure degradation associated with flood protection of the safety-related buildings was identified and corrected. [H.2] (Section 1R01.1)

Inspection Report# : [2013010](#) (*pdf*)

Significance:  Dec 31, 2013

Identified By: NRC

Item Type: FIN Finding

Inadequate Procedures for Inspecting Flood Protection Doors and Performing Functionality Assessments

An NRC-identified Green finding for the failure to meet the requirements of licensee procedure PRO-NGGC-0201, NGG Procedure Writer's Guide, was identified with two examples. Specifically, the licensee failed to provide an adequate procedure with appropriate acceptance criteria to inspect flood protection doors for leakage and failed to have an adequate procedure to perform functionality assessments which met the requirements specified in Procedure

PRO-NGGC-0201. The licensee entered these issues into the corrective action program (CAP) as nuclear condition reports (NCRs) 631303, and 563113 and 580629, respectively.

The inspectors determined that the failure of the licensee to provide an adequate procedure to inspect flood protection doors for leakage and to have an adequate procedure which met the requirements of licensee Procedure PRO-NGGC-0201 to perform functionality assessments was a performance deficiency. The finding is more than minor because it is associated with the protection against external factors (i.e., flood hazard) attribute of the Mitigating Systems Cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the flood protection door and flood penetration seals were missing or degraded which could have resulted in a flood pathway into the high pressure coolant injection (HPCI) system room and service water building (SWB) during a PMH. Using IMC 0609, Appendix A, issued June 9, 2012, The SDP for Findings At-Power, the inspectors determined the finding screened to Green because the individual door and penetration seal degradations did not involve the total loss of any safety function, identified by the licensee through a probabilistic risk assessment (PRA), individual plant examination of external events (IPEEE), or similar analysis, that contributes to external event initiated core damage accident sequences (i.e., initiated by a seismic, flooding, or severe weather event). The finding has a cross-cutting aspect in the area of human performance associated with the documentation attribute because the licensee failed to create and maintain complete, accurate and, up-to-date documentation to inspect flood protection doors and perform functionality assessments. [H.7] (Section 1R01.2)

Inspection Report# : [2013010](#) (*pdf*)

Significance: G Dec 31, 2013

Identified By: NRC

Item Type: FIN Finding

Failure to Perform Functionality Assessments for flood Protection Features

An NRC-identified Green finding was identified for the failure of the licensee to follow Procedure OPS-NGGC-1305, Operability Determinations, to perform functionality assessments for degraded or non-conforming flood protection features. Specifically, the licensee failed to perform functionality assessments for flood protection features, including EDG building conduit seals and Unit 2 HPCI sump pump failures. The licensee entered these issues into the CAP as NCRs 613354 and 631442.

The inspectors determined the failure to follow Procedure OPS-NGGC-1305, to perform functionality assessments for degraded or non-conforming flood protection features, was a performance deficiency. The finding is more than minor because it is associated with the protection against external factors (i.e., flood hazard) attribute of the Mitigating Systems Cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the failure to perform functionality assessments for degraded or non-conforming flood protection features could have resulted in a flood pathway into the HPCI room and EDG building during a PMH. Using IMC 0609, Appendix A, issued June 9, 2012, The SDP for Findings At-Power, the inspectors determined the finding screened to Green because the resulting individual functional assessments did not involve the total loss of any safety function, identified by the licensee through a PRA, IPEEE, or similar analysis, that contributes to external event initiated core damage accident sequences (i.e., initiated by a seismic, flooding, or severe weather event). The finding has a cross-cutting aspect in the area of human performance associated with the procedure adherence attribute because the licensee did not follow processes, procedures, and work instructions. Specifically, the licensee revised Procedure OPS-NGGC-1305 for performing functionality assessments but did not effectively communicate the new procedural requirements to operations personnel such that functionality assessments were performed when required. [H.8] (Section 1R01.3)

Inspection Report# : [2013010](#) (*pdf*)

Significance: N/A Dec 31, 2013

Identified By: NRC

Item Type: AV Apparent Violation

Failure to Submit a Timely LER for Service Water System Operability

An NRC-identified AV of 10 CFR 50.73(a)(2)(i)(B) and 10 CFR 50.73(a)(2)(v)(B), was identified for failure of the licensee to provide a written Licensee Event Report (LER) to the NRC within 60 days of identifying a condition which was prohibited by plant TS 3.7.2, SW System and Ultimate Heat Sink, and an event that could have prevented the fulfillment of a safety function of RHR. The licensee's corrective actions included submitting LER 50-325 and 50-324/2013-003-00 on November 14, 2013. The licensee entered this issue into the CAP as NCR 629064.

The inspectors determined the failure of the licensee to provide a written LER to the NRC within 60 days as required by 10 CFR 50.73(a)(2)(i)(B) and 10 CFR 50.73(a)(2)(v)(B) was a performance deficiency. This violation involved a failure to make a required report to the NRC and is considered to impact the regulatory process. Such violations are dispositioned using the traditional enforcement process instead of the SDP. As discussed in the Enforcement Policy, the severity level of a violation involving the failure to make a required report to the NRC will be based upon the significance of and the circumstances surrounding the matter that should have been reported. This issue is being characterized as an AV in accordance with the NRC's Enforcement Policy, and its final significance will be dispositioned in separate future correspondence. Because this violation involves the traditional enforcement process, a cross-cutting aspect is not assigned to this violation. (Section 40A3.1)

Inspection Report# : [2013010](#) (*pdf*)

Significance:  Oct 23, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Acceptance Criteria for the Class 1E Station Battery Service Capacity Test Procedure

The team identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," for the licensee's failure to incorporate adequate acceptance criteria in the Class 1E station battery service test procedures. This failure to incorporate adequate acceptance criteria was a performance deficiency. The licensee entered this issue into their corrective action program as nuclear condition reports 632998 and 630621. The licensee performed a prompt determination of operability to verify that the batteries would be capable of supplying the necessary voltage to safety-related direct current loads at the required time intervals specified in design bases calculations.

The performance deficiency was determined to be more than minor because it was associated with the Design Control attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, using an acceptance criterion of 105 volts direct current during the service test could result in incorrectly declaring a Class 1E station battery operable when greater terminal voltages, as specified in design bases calculations, were necessary for safety-related equipment to operate during the first minute of a design basis accident. The team determined the finding to be of very low safety significance (Green) because the finding was a deficiency affecting the design or qualification of a mitigating structure, system, or component which maintained its operability or functionality. The team determined that no cross-cutting aspect was applicable because the finding was not indicative of current licensee performance.

Inspection Report# : [2013007](#) (*pdf*)

Significance:  Oct 23, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate DC System Calculations – Three Examples

The team identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," with three examples, for the licensee's failure to properly incorporate the design and licensing bases for the 125 volt direct current system into design calculations. This failure to properly incorporate the design and licensing bases for the 125 volts direct current system into design calculations was a performance deficiency. The licensee entered these issues into their corrective action program as nuclear condition reports 632998, 630621, 633538, and 633889. The licensee conducted a combination of prompt determinations of operability and engineering evaluations which provided reasonable expectation of operability of the direct current system pending final resolution.

The performance deficiency was determined to be more than minor because it was associated with the Design Control attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, there was reasonable doubt as to whether direct current system components would have adequate voltage to operate during design basis accidents. The team determined the finding to be of very low safety significance (Green) because the finding was a deficiency affecting the design or qualification of a mitigating structure, system, or component which maintained its operability or functionality. The team determined that no cross-cutting aspect was applicable because the finding was not indicative of current licensee performance.

Inspection Report# : [2013007](#) (*pdf*)

Significance:  Oct 23, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Verify Adequacy of the Service Water Intake Structure Ventilation System

The team identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to verify the adequacy of the service water intake structure ventilation design through calculational methods. This failure to verify the adequacy of the service water intake structure ventilation design was a performance deficiency. The licensee entered this issue into their corrective action program as nuclear condition report 627708. The licensee performed a prompt determination of operability and implemented a number of compensatory actions to ensure safety-related components in the intake structure would not fail under the worst case high temperature conditions.

The performance deficiency was determined to be more than minor because it was associated with the Design Control attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, there was reasonable doubt as to whether safety-related components in the service water intake structure would be operable under design temperatures. The team determined the finding to be of very low safety significance (Green) because the finding was a deficiency affecting the design or qualification of a mitigating structure, system, or component which maintained its operability or functionality. The team determined that no cross-cutting aspect was applicable because the finding was not indicative of current licensee performance.

Inspection Report# : [2013007](#) (*pdf*)

Significance:  Oct 23, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Scope Safety-related Components in the Maintenance Rule Program

The team identified a non-cited violation of 10 CFR 50.65(b)(1), for the licensee's failure to scope the safety-related service water intake structure exhaust fan dampers into the Maintenance Rule program. This failure to scope safety-related service water intake structure exhaust fan dampers was a performance deficiency. The licensee entered this issue into their corrective action program as nuclear condition reports 630922, 627708, 630553, and 630993. The licensee has subsequently implemented corrective actions to include the dampers within the scope of the Maintenance

Rule program.

The performance deficiency was determined to be more than minor because it was associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, numerous dampers were found in degraded conditions such that effective control of performance or condition through appropriate preventive maintenance under 10CFR 50.65(a)(2) could not be demonstrated. The team determined the finding to be of very low safety significance (Green) because the finding did not result in an actual loss of function of at least a single service water system train for greater than its technical specifications allowed outage time. The team determined that no cross-cutting aspect was applicable because the finding was not indicative of current licensee performance.

Inspection Report# : [2013007](#) (*pdf*)

Significance: G Oct 23, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Plant Procedure Directing the Performance of Preventive Maintenance on Safety-related Dampers

The team identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the licensee’s failure to follow plant procedures specifying requirements for preventive maintenance of safety-related dampers. This failure to follow plant procedures was a performance deficiency. The licensee entered this issue into their corrective action program as nuclear condition reports 631376, 628132, 633710, and 631711. The licensee performed an immediate determination of operability to verify the as-found condition of the dampers did not affect operability of equipment inside the diesel generator building and implemented corrective actions to complete the missed preventive maintenance on the dampers.

The performance deficiency was determined to be more than minor because it was associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the programmatic failure to perform preventive maintenance on the nine dampers resulted in decreased availability and reliability of the dampers such that multiple dampers were found in degraded conditions. The team determined the finding to be of very low safety significance (Green) because the finding did not result in an actual loss of function of at least a single emergency diesel generator for greater than its technical specifications allowed outage time. The team determined that this finding was associated with the cross-cutting aspect of Supervisory Oversight in the Work Practices component of the Human Performance area because Brunswick supervisors did not enforce the scheduled preventive maintenance nor did they ensure a justification for not performing preventive maintenance on safety-related components. [H.4(c)]

Inspection Report# : [2013007](#) (*pdf*)

Significance: G Oct 23, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate Evaluation of Vibration on 2A RHR Heat Exchanger Bypass Valve

A self-revealing non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” was identified for the licensee’s failure to verify or check the adequacy of design of the Unit 2 A residual heat removal heat exchanger bypass valve 2-E11-F048A. This failure to verify or check the adequacy of design of the bypass valve was a performance deficiency. The licensee entered this issue into their corrective action program as nuclear condition report 598294. The licensee’s corrective actions included replacing the four valve yoke to bonnet hold down studs and initiating long term corrective actions to perform a design change to reduce vibration on the valve.

The performance deficiency was determined to be more than minor because, if left uncorrected, it could become a more significant safety concern. Specifically, continued fatigue of the studs could have resulted in a more degraded state than the actual as-found condition, which could have affected the ability of the valve to operate for its safety-related function. The team determined the finding to be of very low safety significance (Green) because the finding was a deficiency affecting the design or qualification of a mitigating structure, system, or component which maintained its operability. The team determined that no cross-cutting aspect was applicable because the finding was not indicative of current licensee performance.

Inspection Report# : [2013007](#) (*pdf*)

Significance: G Sep 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to identify and correct nuclear service water pump shaft degradation

An NRC identified Green non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, was identified for the failure of the licensee to identify and correct a condition adverse to quality (CAQ) on the 1B nuclear service water pump (NSWP). Specifically, between June 26, 2012, and January 12, 2013, the licensee failed to identify or correct the pump shaft degradation on the 1B Nuclear Service Water Pump (NSWP) pump. This resulted in the shaft bearing delaminating and bearing material becoming dislodged and trapped in the pump strainer which caused the 1B NSWP to become inoperable. The licensee replaced the pump shaft and returned the pump to operable. The licensee entered this issue into the corrective action program (CAP) as nuclear condition report (NCR) 582584.

The inspectors determined that the failure of the licensee to identify and correct the 1B NSWP shaft degradation before the pump failed was a performance deficiency. The finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the shaft degradation resulted in the 1B NSWP being inoperable. Using IMC 0609, Appendix A, issued June 19, 2012, the SDP for Findings At-Power, the inspectors determined the finding was of very low safety significance (Green) because the finding did not affect the design or qualification of a mitigating structure, system and component (SSC), the finding did not represent a loss of system and/or function, the finding did not represent an actual loss of a function of a single train for greater than the technical specifications (TS) allowed outage time, the finding did not represent an actual loss of a function of one or more non-TS trains of equipment, and did not screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. The finding has a cross-cutting aspect in the area of problem identification and resolution associated with the CAP attribute because the licensee failed to implement a CAP with a low threshold for identifying issues, specifically the licensee did not enter this issue into the CAP in June 2012. [P.1(a)] (Section 1R15)

Inspection Report# : [2013004](#) (*pdf*)

Significance: G Sep 30, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate preventative maintenance procedure for the service water pump breakers

A self-revealing Green NCV of 10 CFR 50, Appendix B, Criterion V, Instructions, Procedures, and Drawings, was identified for the failure of the licensee to have an adequate preventative maintenance procedure for the service water pump breakers. Specifically, from December 1, 2004, through the end of this inspection period (September 30, 2013), the licensee failed to have an adequate preventative maintenance procedure to ensure the 52S mechanism was securely bolted to the breaker for the 2C conventional service water pump (CSWP). This resulted in both discharge valves failing to open when the 2C CSWP was started, and the inoperability of the 2C CSWP. The licensee securely bolted

and tightened the 52S mechanism to the breaker. The licensee entered this issue into the CAP as NCR 604452.

The inspectors determined the failure to have an adequate preventative maintenance procedure for the service water pump breakers was a performance deficiency. The finding was more than minor because it was associated with the configuration control attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to ensure the 52S mechanism was securely bolted to the 2C CSWP breaker resulted in the failure of both 2C CSWP discharge valves to open. Using IMC 0609, Appendix A, issued June 19, 2012, the SDP for Findings At-Power, the inspectors determined the finding was of very low safety significance (Green) because the finding did not affect the design or qualification of a mitigating SSC, the finding did not represent a loss of system and/or function, the finding did not represent an actual loss of a function of a single train for greater than the TS allowed outage time, the finding did not represent an actual loss of a function of one or more non-TS trains of equipment, and did not screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. The finding does not have a cross-cutting aspect since the performance deficiency is not indicative of current plant performance. The 2C CSWP breaker was refurbished in December 2004 and installed in the plant in January 2005. (Section 1R19)

Inspection Report# : [2013004](#) (pdf)

Significance:  Jun 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Have Adequate Installation and Testing Instructions for the EDG Overspeed Boost Cylinder.

An NRC-identified Green NCV of 10 CFR 50, Appendix B, Criterion V, Instructions, Procedures, and Drawings, was identified for the failure of the licensee to have adequate installation and testing instructions for the EDG control oil system overspeed boost cylinder and accomplish the installation and testing in accordance with these instructions. The licensee replaced the boost cylinder and returned the EDG to operable. The licensee entered this issue into the corrective action program (CAP) as nuclear condition report (NCR) 567016.

The inspectors determined that the failure to properly install the EDG 3 overspeed boost cylinder and properly test the boost cylinder, to ensure the boost cylinder can perform its design basis function, was a performance deficiency. The finding was more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to correctly install and test the EDG 3 overspeed boost cylinder resulted in the failure of EDG 3 to start and EDG 3 being declared inoperable on October 14, 2012. Using IMC 0609, Appendix A, issued June 19, 2012, the SDP for Findings At-Power, the inspectors determined the finding was of very low safety significance (Green) because the finding did not affect the design or qualification of a mitigating SSC, the finding did not represent a loss of system and/or function, the finding did not represent an actual loss of a function of a single train for greater than the TS allowed outage time, the finding did not represent an actual loss of a function of one or more non-TS trains of equipment, and did not screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. The finding has a cross-cutting aspect in the area of human performance associated with the resources attribute because the licensee did not have complete, accurate and up-to-date design documentation, procedures, and work packages to install and test the EDG 3 overspeed boost cylinder. H.2(c)

Inspection Report# : [2013003](#) (pdf)

Significance:  Jun 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement Risk Management Actions during Elevated Risk

• An NRC-identified Green NCV of 10 CFR 50.65(a)(4) was identified for the failure of the licensee to manage the increase in risk that resulted from the E6 bus outage. Specifically, between May 19, 2013 and May 21, 2013, the licensee did not manage the increase in risk on Unit 2 during the E6 bus outage by use of appropriate risk management actions (RMAs). Operations personnel took immediate actions to protect the equipment in the control room and in the field. The licensee entered this issue into the CAP as NCR 607741.

The inspectors determined that the failure of the licensee to manage risk during the E6 outage by performing RMAs for the protected 2A RHR and RHRSW loops, the 2A and 2B core spray and the hardened vent was a performance deficiency. The finding was more than minor because if left uncorrected, the failure to perform RMAs when required could result in safety-related mitigating equipment being unavailable during already elevated plant risk, specifically the 2A RHR and RHRSW loops, the 2A and 2B core spray and the hardened vent. This finding was associated with the human performance attribute of the Mitigating Systems Cornerstone. Using IMC 0609, Appendix K, issued May 19, 2005, Maintenance Risk Assessment and Risk Management Significance Determination Process, Flowchart 2, Assessment of RMAs, the inspectors determined the finding screened as very low safety significance (Green) since the incremental core damage probability was less than 1E-6. The finding has a cross-cutting aspect in the area of human performance associated with the work control attribute because the licensee did not appropriately plan work activities by incorporating risk insights during the E6 bus outage. H.3(a)

Inspection Report# : [2013003](#) (*pdf*)

Significance: G Jun 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Design Control for Allowable Jacket Water Leak Rate

An NRC-identified Green NCV of 10 CFR 50, Appendix B, Criterion III, Design Control, was identified for the failure of the licensee to verify the adequacy of the design acceptance criteria for jacket water leakage to ensure EDG 3 could meet the design basis mission time of seven days. The licensee's corrective actions include developing a plan to fill the EDG jacket water system to ensure operation of the EDG for seven days. The licensee entered this issue into the CAP as NCR 615491.

The inspectors determined that the failure to ensure sufficient jacket water to the EDGs, with a jacket water leak, for the seven-day mission time, was a performance deficiency. The violation is more than minor because it is associated with the design control attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the calculational error assuming a four-day mission time versus a seven-day mission time results in a condition where there was reasonable doubt on the capability of an EDG when a jacket water leak exists. Using IMC 0609, Appendix A, issued June 19, 2012, the SDP for Findings At-Power, the inspectors determined the finding screened to a detailed risk evaluation because the finding represented an actual loss of function of at least a single Train of EDG for greater than the TS Allowed Outage time. The regional SRA performed a Phase 3 analysis on the finding. The time to failure of the EDG due to the leak precluded any internal risk impact, since it exceeded 24 hours to failure. A screening calculation was performed to estimate the impact the finding would have on an extended loss of offsite power from seismic or external flooding. The low likelihood of the seismic or external flood event occurring, combined with the short time the deficiency existed, resulted in a finding of very low safety significance (Green). The finding does not have a cross-cutting aspect since the performance deficiency is not indicative of current plant performance. Engineering evaluation was performed on July 7, 2004.

Inspection Report# : [2013003](#) (*pdf*)

Barrier Integrity

Significance: G Jun 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Work Order to Perform a Modification to the Control Room Emergency Ventilation System

An NRC-identified Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, Instructions, Procedures, and Drawings, was identified, for the licensee's failure to have an adequate instruction or procedure to perform a modification to the control room emergency ventilation system. The licensee took immediate action to return CREV to service and entered this issue into the CAP as NCR 578363.

The inspectors determined that the failure of the licensee to have an adequate procedure for installing a jumper on the 2A CREV system was a performance deficiency. The finding was more than minor because it was associated with the configuration control attribute of the Barrier Integrity Cornerstone and affects the cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Specifically, the failure to have an adequate procedure to install a jumper on the 2A CREV system resulted in the safety system functional failure of CREV. Using IMC 0609, Appendix A, issued June 19, 2012, the SDP for Findings At-Power, the inspectors determined the finding screened to a detailed risk evaluation because the finding represented a degradation of the radiological barrier function and smoke or toxic atmosphere function of the control room barrier. The regional SRA performed a Phase 3 analysis on the finding. A screening calculation was performed to estimate the impact the finding would have on the facility for conditions that would lead to plant shutdown, or failure of the filtering function of the ventilation system. The low likelihood of failure to recover the system, combined with the short time the deficiency existed, resulted in a finding of very low safety significance (Green). The finding has a cross-cutting aspect in the area of human performance associated with the work control attribute because the licensee did not appropriately coordinate work activities by incorporating the impact of changes to the work scope or activity on the plant when installing a ring lug jumper on the 2A CREV subsystem. H.3(b)

Inspection Report# : [2013003](#) (*pdf*)

Significance: G Jun 30, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Have an Adequate Procedure for Preventative Maintenance on a SCRAM Contactor Coil

A self-revealing Green NCV of TS 5.4.1a, Procedures, was identified for the failure of the licensee to have an adequate procedure incorporating a preventative maintenance schedule which specifies inspection or replacement of the RPS coil contactor 2-C72B-K1A that had a specific recommended lifetime. The licensee took action to manually open valve 2-E11-F009 and entered this issue into the CAP as NCR 599641.

The inspectors determined that the failure of the licensee to have an adequate procedure incorporating a preventative maintenance schedule which specifies inspection or replacement of contactor 2-C72B-K1A was a performance deficiency. The finding was more than minor because if left uncorrected, the failure of the GE CR105 contactors could result in the failure of the Unit 1 and Unit 2 A and B RPS buses. The finding was also associated with the configuration control attribute of the Barrier Integrity Cornerstone. Specifically, the failure to perform a PM on contactor coil 2-C72B-K1A resulted in a loss of decay heat removal to the SFP on April 5, 2013. Using IMC 0609, Attachment 4, issued June 19, 2012, Initial Characterization of Findings, the inspectors determined that since this issue occurred during a refueling outage, that the finding should be processed in accordance with IMC 0609, Appendix G, issued February 28, 2005, Shutdown Operations Significance Determination Process. Using IMC 0609,

Appendix G, Table 1, Losses of Control, the inspectors determined that the finding was of very low safety significance (Green) because the inadvertent change in RCS temperature due to loss of RHR divided by the change in temperature that would cause boiling was less than 0.2 (temperature margin to boil). The finding does not have a cross-cutting aspect since the performance deficiency is not indicative of current plant performance. The PM was not implemented per vendor recommendations in 1990.

Inspection Report# : [2013003](#) (*pdf*)

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : May 30, 2014